

## **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

- 1        1. (Original) A method of optically routing packets, comprising the steps  
2        of:
  - 3            a first step of impressing onto a silica optical fiber packet signaling  
4        information for a first packet on a signaling optical signal having a signaling  
5        wavelength within a first silica fiber band;
  - 6            a second step of impressing onto said silica optical fiber a data payload for  
7        said first packet on a first optical signal having a first wavelength within a  
8        different second silica fiber band;
  - 9            detecting from said silica optical fiber said signaling optical signal; and  
10          based upon said detecting spatially switching said first optical signal  
11          without converting it to electrical form.
- 1        2. (Original) The method of Claim 1, further comprising:
  - 2            a third step of impressing onto said silica optical fiber packet signaling  
3        information for a second packet on a second optical signal having said signaling  
4        wavelength;
  - 5            a fourth step of impressing onto said silica optical fiber a data payload for  
6        said second packet on a second optical signal having a second wavelength  
7        different from said first wavelength within said second silica fiber band; and  
8            based upon said detecting step spatially switching said second optical  
9        signal without converting it to electrical form.

1           3. (Original) The method of Claim 2, wherein said first and third  
2 impressing steps include impressing first and second RF signals upon said second  
3 optical signal.

1           4. (Original) A method of optically routing packets, comprising the steps  
2 of:

3           at a first time, impressing onto an optical transmission path packet signal  
4 information for a first packet on a first optical signal having a first wavelength;

5           at a second time later than said first time by a predetermined time  
6 difference, impressing onto said optical transmission path a data payload for said  
7 first packet on a second optical signal having a different second wavelength;

8           detecting from said optical transmission path said first optical signal;

9           processing said detected first optical signal to determine a switching path,  
10 wherein said processing may be performed within a time period of no more than  
11 said time difference; and

12           switching said second optical signal according said determined switching  
13 path without converting it to electrical form.

1           5. (Original) The method of Claim 4, wherein said first and second  
2 wavelengths are different silica transmission bands.

1           6. (Original) The method of Claim 4, wherein said first and second  
2 wavelengths are in a same silica transmission band.

1           7. (Original) A method of optically routing packets, comprising the steps  
2 of:

3           a first step of impressing upon an optical transmission path a multi-  
4 wavelength signal comprising a plurality of optical data channels of different first

5       optical wavelengths, each of said channels carrying a sequence of packet  
6       payloads;

7            a second step of impressing upon said optical transmission path an optical  
8       control signal containing directional information for switching of all of said  
9       packet payloads and carried at a second optical wavelength different from said  
10      first optical wavelengths;

11           detecting from said optical transmission path said optical control signal;  
12      and

13           based upon said directional information, switching said packet payloads in  
14      different spatial directions without converting said multi-wavelength signal to  
15      electronic form.

1       8. (Original) The method of Claim 7, wherein said first impressing step  
2       comprises impressing a plurality of electrical subcarrier signals upon said first  
3       optical signal.

1       9. (Original) The method of Claim 7, wherein said first optical  
2       wavelengths are in a first transmission band of a silica fiber and said second  
3       optical wavelength is in a second transmission band of said silica fiber other than  
4       said first transmission band.

1       10. (Original) The method of Claim 7, wherein said first and second  
2       optical wavelengths are within a single transmission band of a silica fiber.

1       11. (Original) The method of Claim 7, further comprising delaying said  
2       multi-wavelength signal prior to said switching step without similarly delaying  
3       said optical control signal.

1           12. (Original) An optical packet switching method, comprising:  
2           detecting a label portion of a packet impressed as an optical control signal  
3           on an optical transmission path at a first optical wavelength;  
4           processing said detected optical control signal to determine a switching  
5           path for said pack; and  
6           based upon said switching path switching a data portion of said packet  
7           impressed on a selected one of a plurality of optical data channels of different  
8           second optical wavelengths impressed on said optical transmission path without  
9           converting said packet data portion to electronic form, wherein said second optical  
10          wavelengths are different from said first optical wavelength.

1           13. (Original) The method of Claim 12, wherein said transmission path  
2           comprises silica fiber.

1           14. (Original) The method of Claim 13, wherein said first optical  
2           wavelength is included within a first transmission band of said silica fiber and  
3           said second optical wavelengths are included within a different, second optical  
4           band of said silica fiber.

1           15. (Original) An optical packet transmission method, comprising:  
2           impressing upon an optical transmission path a plurality of data portions of  
3           a plurality of packets at selected ones of a plurality of first optical wavelengths;  
4           and  
5           impressing upon said optical transmission path a plurality of label portions  
6           of said plurality of packets at a second optical wavelength different from said first  
7           wavelengths.

1           16. (Original) The system of Claim 15, wherein said optical transmission

2 comprises a silica fiber.

1           17. (Original) The system of Claim 16, wherein said first optical  
2 wavelengths are within a first transmission band of said silica fiber and said  
3 second optical wavelengths is within a different, second transmission band of said  
4 silica fiber.

1           18-20 (Canceled).